

IN THE CLAIMS

Claims 1-77: Cancelled.

Claim 78 (new) A method for measuring a fluid property, the method comprising providing a sensor that includes:

- a substrate having a recess formed therein,
- a plate disposed within the recess,
- a plurality of tethers suspendedly attaching the plate to the substrate for enabling reciprocating motion of the plate relative to the substrate, and
- at least one contact pad on the substrate adapted for electrical signaling communication with a power source and processing electronics,

contacting the plate with a test fluid,

oscillating the plate relative to the substrate, and

determining at least one characteristic of the test fluid in response to contact with the plate.

Claim 79 (new) The method of claim 78 wherein the sensor further comprises at least one electrode on the plate.

Claim 80 (new) The method of claim 79 wherein the oscillating step comprises applying an electric field to the plate.

Claim 81 (new) The method of claim 79 wherein the oscillating step comprises oscillating the plate within a magnetic field.

Claim 82 (new) The method of claim 79 wherein the detecting step comprises detecting changes in rheological characteristic of the test fluid.

Claim 83 (new) The method of claim 79 wherein the detecting step comprises detecting changes in shear or normal forces

Claim 84 (new) A fluid sensor comprising:

a fluid sensing element, the fluid sensing element comprising
a substrate having a recess formed therein,
a plate disposed within the recess, and
a plurality of tethers suspendedly attaching the plate to the substrate for enabling oscillation of the plate relative to the substrate,
at least one contact pad on the substrate, adapted for electrical signaling communication with a power source and processing electronics; and
at least one electrode on the plate.

Claim 85 (new) The sensor of claim 84 wherein the substrate, plate and tethers are micromachined.

Claim 86 (new) The sensor of claim 84 wherein the substrate, plate and tethers comprise silicon.

Claim 87 (new) The sensor of claim 84 further comprising at least one strain gauge located on one of the tethers, wherein the at least one strain gauge is connected to the at least one contact pad.

Claim 88 (new) The sensor of claim 84 further comprising at least one strain gauge located on each of the tethers, wherein the strain gauges are connected to the at least one contact pad.